

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A dispensing apparatus for dispensing a fluid, the dispensing apparatus comprising:
 - a) a cylinder having first and second ends;
 - b) a base disposed at the first end of the cylinder;
 - c) a top end disposed at the second end of the cylinder;
 - d) a moveable partition having a bottom surface and a top surface, the moveable partition being disposed between the base and the top end;
 - e) a variable volume for containing the fluid, the variable volume being included in the cylinder between the top surface of the moveable partition and the top end;
 - f) spring means disposed between the base and the bottom end of the moveable partition, the spring means for applying a force on the moveable partition;
 - g) an output port disposed at the top end of the cylinder;
 - h) a valve/closure disposed at the output port; and
 - i) a nozzle having a bore extending therethrough, the nozzle for being disposed at the output port;

wherein disposing the nozzle at the output port is for establishing a continuous flow path between the variable volume and an exterior of the nozzle for permitting the force applied by the spring means on the moveable partition to displace the moveable partition towards the top end of the cylinder thereby reducing the variable volume and forcing the fluid through the bore of the nozzle to the exterior of the nozzle, thereby dispensing the fluid from the dispensing apparatus.

2. A dispensing apparatus as defined in Claim 1 wherein
 - a) the valve includes a self-sealing valve/closure; and
 - b) the nozzle further has a needle having a bore, the needle for being inserted into the self-sealing valve/closure for opening the self-sealing valve/closure and for permitting a flow of fluid through the bore of the needle.

3. A dispensing apparatus as defined in Claim 1 wherein the spring means include a spring.
4. A dispensing apparatus as defined in Claim 1 wherein the spring means comprises a pressurized gas.
5. A dispensing apparatus as defined in Claim 1 wherein the spring means includes a plurality of nested springs.
6. A dispensing apparatus as defined in Claim 1 wherein:
 - a) the top end includes a top end inner surface; and
 - b) the top end inner surface and the top surface of the moveable partition are profiled so as to minimize a non-dispensed volume of fluid.
7. A dispensing apparatus as defined in Claim 1 wherein the moveable partition includes a perimeter having a groove, the groove for accommodating a seal ring for sealing the variable volume.
8. A dispensing apparatus as defined in Claim 1 wherein the self-sealing valve/closure includes an elastomeric material.
9. A dispensing apparatus as defined in Claim 8 wherein the elastomeric material includes styrene butadiene.
10. A dispensing apparatus as defined in Claim 2 wherein the output port and self-sealing the valve/closure have inter-engaging profiles for providing a sealing pressure within the self-sealing valve/closure.
11. A dispensing apparatus as defined in Claim 10 wherein the sealing pressure is increased by a pressure of the variable volume.

12. A dispensing apparatus as defined in Claim 1 wherein items (a) through (h) form a canister and wherein

- a) the cylinder includes an outer surface at the first end, the outer surface having an outer shape; and
- b) the base is recessed at the second end;

wherein the outer shape and the recessed base inter-fit thereby allowing multiple canisters to be stacked in a compact, mechanically stable manner.

13. A dispensing apparatus as defined in Claim 1 wherein the nozzle further has an outer surface, the outer surface having a tapered segment

14. A dispensing apparatus as defined in Claim 1 wherein the dispensing apparatus is for dispensing the fluid into a tree.

15. A dispensing apparatus as defined in Claim 14 wherein the fluid is selected from a group consisting of: pesticides and fungicides.

16. A method for injecting a fluid into a tree comprising the steps of:

- a) determining an injection depth of a fluid in a tree;
- b) drilling a hole in the tree, the hole having a hole depth, the hole depth being no shallower than the injection depth;
- c) providing a nozzle;
- d) inserting the nozzle in the hole;
- e) providing a canister including the fluid; and
- f) mating the canister to the nozzle.

17. A method for injecting a fluid into a tree as defined in claim 16 wherein: the canister further includes:

- a) a moveable partition having a bottom surface and a top surface, the moveable partition being disposed between the base and the top end;

- b) a variable volume for containing the fluid, the variable volume being included in the cylinder between the top surface of the moveable partition and the top end; and
- c) spring means disposed between the base and the bottom end of the moveable partition, the spring means for applying a force on the moveable partition.

18. A dispensing apparatus as claimed in claim 1, further comprising a refilling nozzle for refilling the variable volume with a refilling fluid, the refilling nozzle including:

- a) top and bottom portions;
- b) a housing having an inner rim and top and bottom ends, the inner rim having a seat;
- c) a shaft for being disposed in the housing, the shaft having a top end including an “O” ring, a portion including a hole and a seat, the “O” ring for being seated on the inner rim seat;
- d) a refilling needle having a bore extending therethrough, a proximal end and a tip, the proximal end for being disposed in the shaft with the bore of the needle being in fluid contact with the hole in the shaft;
- e) a spring having first and second ends, the first end for being disposed on the seat of the inner rim and the second end for being disposed on the seat of the shaft whereby the spring is for pushing the shaft towards the bottom portion of the refilling nozzle; and
- f) a gap included between the inner rim and the shaft,

wherein mating of the bottom portion of the refilling nozzle with the top end of the cylinder for introducing the tip of the refilling needle into the variable volume, will cause the shaft to move towards the top end of the housing thereby displacing the “O” ring from the seat of the inner rim to allow the fluid to flow from the top portion of the refilling nozzle through the gap, the hole of the shaft, the bore of the refilling needle, the tip of the refilling needle and into the variable volume thereby allowing refilling or discharging of the variable volume.

19. A dispensing apparatus as claimed in claim 18 wherein a displacement of the “O” ring from the seat of the inner rim to allow fluid to flow from the top portion of the

refilling nozzle through the gap, the hole of the shaft , the bore of the refilling needle, the tip of the refilling needle and into the variable volume is preceded by a penetration of the tip of the refilling needle into the variable volume.

20. A dispensing apparatus as claimed in claim 18 further comprising holding means for holding the refilling nozzle and canister in a mated state.